

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims:

1-52. (Canceled)

53. (Currently Amended) A method for eliciting an immune response against an A/E pathogen, or component thereof, in ~~a~~ an ruminant animal comprising administering to the ruminant animal an effective amount of a composition comprising:

- i) an isolated polypeptide which comprises an amino acid sequence having at least 75% sequence identity substantially identical to the sequence of SEQ ID NO: 24 SEQ ID NOs: 22-24 or an immunogenic fragment or variant thereof, or
- ii) ~~a nucleic acid molecule which comprises a nucleotide sequence substantially identical to the sequence of SEQ ID NOs: 1-3 or a fragment or variant thereof;~~
- iii) ~~— a nucleic acid molecule encoding a polypeptide which comprises an amino acid sequence substantially identical to the sequence of SEQ ID NOs: 22-24 or a fragment or variant thereof; or~~
- iv) ~~— a cell culture supernatant which comprises an isolated polypeptide comprising an amino acid sequence having at least 75% sequence identity substantially identical to the sequence of SEQ ID NO: 24 SEQ ID NOs: 22-24, or an immunogenic fragment or variant thereof,~~
thereby eliciting an immune response in the ruminant animal.

54. (Currently Amended) A method for reducing colonization of an A/E pathogen in ~~an animal~~ a ruminant, the method comprising administering to the ruminant animal an effective amount of a composition comprising:

- i) an isolated polypeptide which comprises an amino acid sequence substantially identical having at least 75% sequence identity to SEQ ID NO: 24 the sequence of SEQ ID NOs:

22-24, or an immunogenic fragment or variant thereof, or

ii) ~~a nucleic acid molecule which comprises a nucleotide sequence substantially identical to the sequence of SEQ ID NOs: 1-3 or a fragment or variant thereof;~~

iii) ~~a nucleic acid molecule encoding a polypeptide which comprises an amino acid sequence substantially identical to the sequence of SEQ ID NOs: 22-24 or a fragment or variant thereof; or~~

iv) ~~a cell culture supernatant which comprises an isolated polypeptide comprising an amino acid sequence having at least 75% sequence identity substantially identical to SEQ ID NO: 24 the sequence of SEQ ID NOs: 22-24, or an immunogenic fragment or variant thereof, thereby reducing colonization of the A/E pathogen in the ruminant animal.~~

55. (Currently Amended) A method for reducing shedding of an A/E pathogen in an ~~animal~~ ruminant comprising administering to the ruminant animal an effective amount of a composition comprising:

i) an isolated polypeptide which comprises an amino acid sequence having at least 75% sequence identity substantially identical to SEQ ID NO: 24 the sequence of SEQ ID NOs: 22-24 or an immunogenic fragment or variant thereof,

ii) ~~a nucleic acid molecule which comprises a nucleotide sequence substantially identical to the sequence of SEQ ID NOs: 1-3 or a fragment or variant thereof;~~

iii) ~~a nucleic acid molecule encoding a polypeptide which comprises an amino acid sequence substantially identical to the sequence of SEQ ID NOs: 22-24 or a fragment or variant thereof; or~~

iv) ~~a cell culture supernatant which comprises an isolated polypeptide comprising an amino acid sequence having at least 75% sequence identity substantially identical to SEQ ID NO: 24 the sequence of SEQ ID NOs: 22-24, or an immunogenic fragment or variant thereof, thereby reducing shedding of the A/E pathogen in the ruminant animal.~~

56. (Currently Amended) The method of claim 53, wherein the ~~animal is a ruminant~~ is

a bovine or ovine subject.

57. (Currently Amended) The method of claim ~~56~~54, wherein the ruminant is a bovine or ovine subject.

58. (Currently Amended) The method of claim ~~53~~55, wherein the ruminant is a bovine or ovine subject ~~animal is a human.~~

59-70. (Canceled)

71. (Previously Presented) The method of claim 53, wherein the A/E pathogen is enterohemorrhagic *E. coli* (EHEC), enteropathogenic *E. coli* (EPEC), or *Citrobacter rodentium*.

72. (Original) The method of claim 71 wherein the EHEC is EHEC O157:H7 or EHEC O157:NM.

73. (Original) The method of claim 71 wherein the EPEC is EPEC 0127:H6.

74-85. (Canceled)

86. (Previously Presented) The method of claim 53, wherein the composition is provided in combination with a physiologically acceptable carrier.

87. (Previously Presented) The method of claim 53, wherein the polypeptide comprises 20% of the cell protein present in the composition.

88. (Currently Amended) The method of claim 53, wherein the composition further comprises a EspA, EspB, EspD, EspP, Tir, ~~Shiga toxin-1, Shiga toxin-2~~, , or intimin polypeptide.

89. (Previously Presented) The method of claim 53, wherein the composition further comprises an adjuvant.

90. (Currently Amended) The method of claim 53 54, ~~further comprising treating or preventing infection by the A/E pathogen wherein the A/E pathogen is enterohemorrhagic *E. coli* (EHEC), enteropathogenic *E. coli* (EPEC), or *Citrobacter rodentium*.~~

91. (Currently Amended) The method of claim 53 54, wherein the animal is a ruminant EHEC is EHEC O157:H7 or EHEC O157:NM.

92. (Currently Amended) The method of claim 53 54, wherein the animal is a ruminant composition further comprises an adjuvant.

93. (Currently Amended) The method of claim 54 55, wherein the animal is a human A/E pathogen is enterohemorrhagic *E. coli* (EHEC), enteropathogenic *E. coli* (EPEC), or *Citrobacter rodentium*.

94. (Currently Amended) The method of claim 55, wherein the animal is a human EHEC is EHEC O157:H7 or EHEC O157:NM.

95. (New) The method of claim 55, wherein the composition further comprises an adjuvant.